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THE ELEMENTARY SCHOOL TEACHER

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EDUCATIONAL NEWS AND EDITORIAL COMMENT

The Department of Superintendence

The most important educational gathering of the year is the winter meeting of the Department of Superintendence and its affiliated organizations which assembled in Philadelphia during the last week of February. Among the affiliated organizations were the National Council, the Society of College Teachers of Education, the National Society for the Study of Education, the International Kindergarten Association, and a half-dozen other national societies and general committees. The discussions of these various bodies cannot be reported here. Two general comments on the significance of this meeting apply to all of the organizations.

First, this winter meeting has clearly outstripped all other meetings in importance. The summer meeting of the association does not bring together as representative or influential a group of educators as does this meeting. The committees which report at this meeting are also of greater significance and influence in the aggregate than are the committees which report at the summer meeting. The total registration at Philadelphia was over 2,500 and there were a great many in attendance who were not formal members of the association.

Second, the very striking emphasis in all of the meetings on discussions of a scientific type marks a great advance upon the informal, inspirational programs of a few years ago. Here and there a voice was raised in protest against the effort to measure educa-

tional products, but in the main there was the most cordial sympathy with scientific studies of every type. Even the protests were encouraging, both because they warn the scientific worker of the necessity of caution against overhasty generalization and also because they show that even the reluctant are beginning to realize that the era of exact evaluations in education has arrived.

Summer Meeting of the N. E. A.

Official announcement was made at the Philadelphia meeting that the National Education Association will be held in Salt Lake City from July 7 to July 11. The general plan which is in view for the association is an eastern meeting in 1914 and a meeting in California in connection with the Panama Exposition in 1915.

A Co-operative School Survey

The Upper Peninsular Educational Association of Michigan established at its last meeting in October a bureau of research. The purpose of this bureau is to make an educational survey of the district covered by the association. The bureau has issued two elaborate blanks on which it seeks to secure information, first, from the superintendent or county commissioner, and second, from the individual teacher.

The blank addressed to superintendents and commissioners makes inquiry with regard to the buildings and their janitorial care; with regard to the course of study, emphasizing especially the newer subjects, as manual training, trade training, science, agriculture, etc. Third, questions are raised with regard to consolidation of schools, medical and physical inspection, and scientific tests undertaken to determine the success of instruction. Finally, a financial statement is requested.

The blank addressed to the teacher seeks to get together, first, information with regard to the teacher's own training and experience; second, with regard to the number and characteristics of students; third, with regard to all of the subjects of instruction in the school and the methods and equipment for the presenting of these subjects. The blanks are very suggestive and will be of assistance to anyone who is attempting a similar co-operative survey of a large district.

The example of this association in attempting through a co-operative committee to give the association a perfectly definite problem and at the same time to secure results that will be of large general interest cannot be too highly commended. The trouble with most educational associations is that they have no definite end in view and consequently waste the time and energy of those in attendance. The local school situation is undoubtedly the most important subject for consideration of any association, and the stimulus and training which will come to all members of the association from an investigation of such topics as those mentioned will be one very important outcome of the work of the committee.

The Wisconsin Rural School Survey

A good example of the difficulties that arise from the type of school inquiries which are now possible is to be found in the recent action of the County Superintendents Association held in Madison, Wis. It will be remembered that a report on the conditions of Wisconsin rural schools was made by the State Board of Public Affairs. The county superintendents at their meeting expressed the view that the investigation was made by men who were novices in the work of education. These men, it is asserted, know nothing of country schools and country-school conditions. They worked in less than one-half the counties in the state and in many of these counties their visits were extremely brief.

It is not the purpose of the present editorial to attempt to decide whether the criticisms of the inquiry are valid or not. The point which is to be emphasized is that school inquiries if they are to be of the highest advantage must be carried on systematically and must be broad and complete enough to command the respect of the community. The report which was issued on Wisconsin rural schools has not, as a matter of fact, led to desirable legislation during the present session of the Wisconsin legislature. It has aroused much antagonism; and as indicated by the references made above to the association of county superintendents, it has failed to serve as a constructive basis for the improvement of Wisconsin education.

The Ohio School Survey

An interesting situation and one that is very significant for school people has arisen in the state of Ohio. The governor and the legislature are fully convinced that the public schools of that state, especially the rural schools, are inefficient. They are therefore organizing a careful inquiry to ascertain just how inefficient their schools are.

The following extract from the *Columbus Journal* of March 1 sets forth clearly the attitude of that journal toward the proposed school survey:

> The act of the legislature providing for a school survey may be regarded as radical legislation. And such it is, if it is carried out in the spirit that the situation demands. The school system of this state does not enjoy the full confidence of the people. It is manned and womaned by talent sufficient to make it a success; but there is something the matter with the system, with the way things are done, and with the theories that underlie that system.
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> To secure the modifications needed, and to put the schools upon a plane of greater efficiency, is the purpose of this act. To secure this, the personnel of that committee should be the first and most important thing to consider. What is wanted is a new departure, an essential change in the doctrine governing common-school education. We are not going to secure this by the sway of reactionary ideas, or under the advice of men who are satisfied with the *status quo*. There should be no inbreeding in the formulation of the new plans. We have had enough of the promulgation of the old theories of public instruction and now we need some men who are prepared with new and advanced ideas.
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> This whole project is a part of the progressive tendency of the age, at the bottom of which is the exaltation of humanity instead of the promotion of professionalism and the old régime.

About a year ago attention was called in this journal to the fact that the immediate predecessors of the present Ohio legislature had so reduced the available public funds of the state that the schools of Ohio were in serious danger of suffering beyond the point of public endurance. When this fact is recalled in connection with the present provision for an inquiry, one wonders whether the legislature will succeed in getting at the real causes of deficiency in the Ohio schools through the agencies which will be employed for the conduct of this inquiry. There can be no question whatever that Ohio rural schools, like all other schools, are defective. There can be no question at all that any investigation

committee will discover some of these defects. Are the educational people going to be satisfied to allow legislators thus to criticize the work of the schools without in turn drawing attention pointedly to the external influences which are continually operating to handicap the teacher and the school supervisor? There ought to be somewhere in the educational world an agency which would anticipate any governor and legislature by pointing out both the defects and the virtues of schools and the extent to which former legislation in the given state has interfered with the operations of the schools. Perhaps the inquiry which is to be made will bring out these facts, but there is great danger, as indicated by some of the inquiries which have already been made, that the real causes of the difficulty will not come to the surface.

A National Council Committee on Standards

The committee of the National Council on Standards and Tests of Efficiency of Schools and Systems of Schools rendered a report through its chairman, Professor Strayer, summarizing the work which has been done up to this time in the different parts of the country in standardizing various subjects and types of organization.

In connection with this report there was a vigorous discussion of the desirability of attempting to standardize the work of schools. There can be no doubt that many members of the council are skeptical as to the possibilities of measuring some of the most important products of school work. On the other hand, those who were in attendance were evidently keenly aware of the fact that school surveys and inquiries are rapidly increasing in number and influence. They were also aware that there must be some constituted educational commission which can undertake in an authoritative way to offer advice to those who are launching upon such inquiries. The committee recommended that its membership be enlarged in such a way that it should represent the most significant scholarship and best administrative practice known to the profession. The functions of this committee were then defined in the report which follows:

1. To encourage those who are engaged in the derivation of scales or units of measurement or in the application of such units to schools or systems

of schools for the sake of establishing standards which may be commonly accepted.

2. That this committee should be made known to the profession as a body ready to give advice or counsel with respect to the nature and scope of school surveys, investigations, or inquiries.

3. That on occasion this committee might be expected to respond to the request of those engaged in the administration of public education for significant help in the organization of a scientific and professional evaluation of the accomplishment of any school or system of schools. This third function can be exercised only when the work of this committee has been sufficiently well established to create the belief in the public mind that our profession is, through its accredited representatives, willing and able to pass in judgment upon the accomplishment of any one of its members. Any such action as is contemplated in this suggestion will, of course, require considerable financial support as well as professional zeal.

In keeping with the general skepticism about measurements, there was some opposition to this committee. Furthermore, there was some opposition on the ground that it would be assumed in some quarters that this committee had arbitrary and wholly artificial powers. It was feared that so small a collection of educators could hardly represent the general profession. The answer to these objections which was offered and accepted by the council was that the committee was not intended to be a court of final resort, but rather an organizing commission which should bring together information and agencies which can be of use in educational inquiries in any part of the country. It is not intended that this committee shall perform through its present membership all of the work which the council has in view. It is intended rather that this committee shall be a center around which activities of this type shall be focused.

The enlarged committee consists of the following persons: Dr. George D. Strayer, chairman, Superintendent William H. Maxwell, Superintendent James H. Van Sickle, Dr. Edward L. Thorndike, Professor E. P. Cubberley, Professor Edward C. Elliott, Professor Paul Hanus, Professor Charles H. Judd, Hon. Calvin N. Kendall, Miss Adelaide Steele Baylor, Hon. Ben Blewett, Mrs. Ella Flagg Young, Hon. John H. Phillips, Miss Katherine D. Blake, Superintendent Frank Spalding.

New York's Reception of the Hanus Report

Two important items of educational news come from New York City. First, the reports of Professor Hanus' committee are appearing in rapid succession. A short section of Professor Hanus' personal report appears with each report by an expert. These documents contain much material that is of universal interest, as well as the description and discussions of New York conditions. In due time each report will be reviewed. In the meantime it is to be noted that New York teachers are making a careful study of the reports and all the other interested parties are being heard at great length on each report. The following article from the *New York Globe* indicates in some detail what is going on:

Through representatives of their various associations, united in a central council, principals and teachers in the local schools have begun a thorough, exhaustive, and impartial study of the reports so far announced by the Committee on School Inquiry of the Board of Estimate. At the meeting of the council yesterday some twenty of the associations were represented, and good progress was made in outlining plans for the study contemplated. It was the prevailing opinion that steps should be taken to increase the representation of teachers, and the Executive Committee was authorized to present a plan to the next meeting.

Upon the recommendation of the central committee it was agreed that all of the reports, including those on the business side, should be studied, and that the report of the Committee on Studies of the Board of Education ought to be included. The scope of the reports was considered, and it was decided that they should not be exhaustive treatises, but clear, concise statements as to the recommendations approved or disapproved, and the reasons therefor. Latitude was given to the committees to report plans where plans suggested by the experts in their reports are not agreed to as outlined.

New York City School Legislation

Our second item of important educational news from New York City refers to certain bills which are before the legislature in Albany to transfer to the Board of Education powers which now belong to the superintendent. The whole matter is so clearly and justly presented in an editorial in the *Evening Post* of February 27 that the statement of the situation may be repeated in the terms of that editorial:

CHAOS IN THE SCHOOLS

It cannot too soon or too sharply be said that the bills pending at Albany to amend the city charter in matters vitally affecting the public schools are

thoroughly mischievous. The fact that the Board of Education yesterday gave its approval to these measures does not disprove this. It rather confirms it. For the plain truth is that an attempt is being made to do indirectly and piecemeal what last year it was sought to do directly and wholesale. The Gaynor charter of 1912, with its rash tearing-up of the whole school system, met such strong opposition on the part of skilled educators and intelligent friends of the schools that it had to be dropped. But now some of the same things are to be compassed by means of a series of pop-gun bills. In favor of them, as Dr. Abraham Flexner asserts in a letter to the *Times*, "no single educator of standing can be quoted." They fly in the face of experience and of the best knowledge we have. With the reports on our school methods just obtained from experts by the city, they are in flat contradiction.

Let us take, for example, Assembly bill No. 1212. It would give to the Board of Education the power to "change the grades of all schools," and to "adopt and modify courses of study for all schools." The board can do that now, it is said. Yes, but only "upon the written recommendation of the Board of Superintendents." Those words are in the present law. They are stricken out by the bill. What would be the result? Why, that special knowledge and practical knowledge would be thrown out of the window, and that any member of the Board of Education who had energy enough and log-rolling cleverness enough could cause sweeping changes to be made in the grades and the courses of study, over the protests of the superintendents, and though the alterations might be born of ignorance or prejudice. Now, this is to stand the whole school system on its head. It would employ experts, but hamstring them. As Dr. Flexner states the case with authority: "The unbroken experience of every American city conclusively demonstrates that nothing but disaster results when duties belonging to trained educational experts are transferred to or usurped by a Board of Education, or any of its officers."

Two other bills are almost equally objectionable. One of them calls for the appointment of three additional district superintendents. Whether they are needed or not, we cannot say. But it is ominous that they are to be appointed, not, as now, "upon the nomination of the Board of Superintendents," but direct by the Board of Education. And there is in the same bill a provision that directors of special branches shall be taken from the supervision of the city superintendent and be under no authority but that of the Board of Education. This is a fine touch of chaos. Another one is to be found in Assembly bill No. 1214, which provides that "the president of the board shall have power to designate any member of the supervising or teaching staff to inspect and report upon any subject of which the board has cognizance or over which it has legal control." This may sound very innocent, but what does it imply? Why, that subordinates are to sit in judgment on their superiors. A district superintendent might undertake to pass upon the work of the city superintendent. A teacher would "inspect and report upon" her principal. Was there ever such a topsy-turvy scheme?

If it is a question of investigating the schools, what more do the board and the legislature want than the exhaustive inquiry carried on for two years by Professor Hanus and his corps of able assistants? The results of their patient labors have been coming from the press. But they might as well never have been printed if the haphazard and upheaving policy now indorsed by the Board of Education is to be put into force. Why invite the judgment of experts if it is at once to be flouted? Why go to great expense to get competent investigators if their conclusions are to be contemptuously ignored? On the whole matter of the functions of superintendents, the board has before it a particularly vigorous and suggestive report by Professor Edward C. Elliott, of Wisconsin University. One of his strongest pleas is that the superintendents should be set free from clerical labor so that they may do with full energy the vital work of overseeing instruction, fixing grades, changing courses of study. But these last duties are the very ones which the Board of Education would take away from them, while not lifting a finger to relieve them from the deadening routine of vast masses of correspondence and detailed reports. The force of ignorant audacity could scarcely go farther.

It is a time for protest and a time for action. The legislature and the governor should be given to understand that sappers and miners cannot be allowed to work in the dark beneath our educational structure. If reforms and reconstructions are necessary, they must be undertaken in the light of day and by hands fitted for the work. Certainly, the happy-go-lucky and subversive methods light-heartedly indorsed by the Board of Education deserve the severest condemnation.

School Nurses

The employment of school nurses is becoming a regular part of school organization. It is so common that it hardly constitutes a new item to call attention to the employment of a school nurse in any given community. In order that a record may be made of the steady growth of this movement, however, it is well to note from time to time such items as the following from the *Journal* of Marquette, Michigan:

Recognizing its responsibility in planning for a healthier Menominee, the board of education of that city has decided to appropriate funds for the employment of a visiting school nurse to be a member of the city's corps of instructors. The acquisition of a health pedagogue has long been considered by the board and its action now is considered an important step in the direction of civic advancement. While not altogether an innovation, the cities of Menominee's population supplied with visiting nurses are not many. Cities fortified with visiting nurses have found their services invaluable and many cases are cited where outbreaks of contagious diseases have been frustrated. The duties as outlined for the nurse will be instruction of the children in health matters generally, the care of pupils in ill health, and instruction in hygiene. The

selection of a person to occupy the new position has been delegated to Superintendent of Schools Davis.

This item could undoubtedly be duplicated from week to week from various parts of the country. It is a clear indication of the gradual and widespread development of a better medical inspection and management of public schools.

Teachers' Courses in St. Louis

The City Teachers' College of St. Louis is performing a large service for the schools of that city. In the first place, it trains the teachers who are to go into the elementary schools from year to year. In the second place, it conducts under the name Extension Work a number of classes for teachers in active service. In the third place, it provides in a Saturday morning class conducted by Dr. Withers, head of the Teachers' College, an agency for scientific study of the St. Louis system. This Saturday morning class is attended regularly by a body of principals and supervisors and is pursuing a series of important studies. For example, studies are being made by reference to the individual records of children in the schools of the exact number of days which a child spends in each grade. This study is of great significance, first, because it recognizes the only legitimate basis for studies of retardation in actual attendance, and second, because the St. Louis school system has a method of securing acceleration in a relatively large number of cases. The work of the schools is organized in short quarters. Certain of these quarters are devoted in larger measure to reviews. Bright children and children who are well advanced in the work are allowed to omit the review quarters. This method of securing acceleration would invalidate all conclusions drawn from general statistics. Hence the special importance of the type of study which is being made.

This one example serves to show what a group of students of education can undertake when properly organized and encouraged. The example of the St. Louis Board of Education in organizing courses for teachers in service and thus keeping alive interests that will reflect themselves in the schools is worthy of wide recognition and imitation.

THE BLACKBOARD CALENDAR

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The blackboard calendar is an extensively used device for teaching the rudimentary lessons in the science of the weather. It is known in many instances that the benefit derived from the calendar has fallen far short of any clearly defined result, and furthermore it is presumed that in the larger percentage of cases the use is limited to the fleeting period of time when the record for the day is entered in the proper square. Most of the reasons given for the daily task of noting the weather conditions may be summed up in trite phrases concerning the powers of observation or in platitudes about the appreciation of Nature's marvelous ways. It is doubtful whether much of the calendar work is more than a perfunctory performance—one of the chores in the day's work. The instances are numerous where the minds of the pupils are callous to this observance. The blackboard calendar as a device is excellent. The fault lies generally in a lack of appreciation on the part of the teacher of any application of the data recorded and especially of the power which lies in anticipating the conditions of any day or month. The main error is found in the pernicious habit of destroying the calendars, erasing them from the blackboard at the end of the months, to make room for the followimg month's calendar. The calendar represents a collection of facts and one is no more justified in throwing away the items which have been so carefully gathered than he is in leaving an inductive lesson with the "preparation," omitting entirely the more important steps which bring the lesson to a fruitful conclusion. The first lesson to be learned in the matter of the calendars is the value of them; the second is how to use the calendars so that the greatest amount of good can be gleaned from them. It is advised as a first step to preserve the calendars of every month. These may be copied from the blackboard upon large sheets of brown paper, or, better still, the original

copy may be made on paper large enough so that the conventional signs may be seen from any part of the room. The legend to be used on the calendar becomes now an object of greater attention. There is no universally accepted set of signs which may be used and a large variety are now in use in the schools. There is no objection to using any code which a teacher prefers, but it will be necessary for the teachers in any single district where the pupils are to be promoted from one room to another to use the same set of symbols in order to increase the facility in the use of the calendars by the pupils as they go from room to room. There are two sets of symbols which may be used with authority:

1. The circle colored as follows: clear days in red; cloudy days in blue; partly cloudy days, upper half of circle in white, lower half in blue; rainy days in yellow; snowy days, a letter *S* as is shown on the October, 1911, calendar for Saturday, the seventh, colored yellow. These are the symbols which are used by the Weather Bureau on the large synoptic weather charts of the United States displayed in certain public places. In the calendars illustrating this article, for convenience in the reproduction, the reader will note that the circles which are cross-lined represent precipitation, the horizontally lined circles stand for cloudy days, and the sunny days are not lined. If these were in colors as indicated above, they would be much more effective. When the day has been mostly clear but some rain or snow has fallen during the night or early morning, an *R* for rain and an *S* for snow have been inserted in the circle, as may be noted for October 6, 1911. The arrows show the direction of the wind and in every instance fly with the wind. Frost is indicated by short vertical lines at the base of the squares (see October 25, 1911). On the October, 1911, calendar, the halo around the moon is indicated on the third in the upper right-hand corner. The crescent moon is indicated on the September, 1911, calendar on the twenty-sixth. It is possible as time goes on to add many more signs to the calendars, but for the purpose of this article only a few were reproduced.

2. In some localities where the weather flags are displayed and a knowledge of the various flags and combinations of flags is considered important, it is possible to use, instead of the circles, facsimiles of the flags. These flags are:

(1) A square white flag, alone, indicates fair weather, stationary temperature.
(2) A square blue flag, alone, indicates rain or snow, stationary temperature.
(3) A square white-and-blue flag (parallel bars of white and blue, the white above the blue), alone, indicates local rain or snow, stationary temperature.
(4) A black triangular flag is a temperature pennant. If above No. 1, it indicates fair weather and warmer; if below, fair weather and colder. If No. 4 is displayed above No. 2, it indicates rain or snow and warmer; if below, rain or snow and colder. If No. 4 is displayed above No. 3, it indicates local rain or snow and warmer; if below, local rain or snow and colder.
(5) A white flag with a black square in the center indicates a cold wave.
(6) A red flag with a black center indicates a storm of marked violence.
(7) A white triangular flag indicates westerly winds.
(8) A red triangular flag indicates easterly winds.

Nos. 7 and 8 are displayed with most of the above flags. No. 7 above a flag indicates a northwest wind; below, a southwest wind. No. 8 above a flag indicates a northeast wind; below, a southeast wind.

It is probable that the first calendar, because of the immaturity of the pupils, cannot be used to any large extent beyond the simple lessons which the different events suggest. In a year or two, the stage of the pupils permits more intricate processes and the accumulation of the facts over the previous years opens devious lines which may be pursued with profit. The work may begin with such a calendar as the September, 1911, which shows state of sky and precipitation only. A first investigation might be to determine the number of clear days in the month; of rainy days; of cloudy days. With the addition of another month's calendar, a comparison is offered. When the September, 1912, calendar has been completed, a monthly average for September is begun. A simple exercise which would bring into play a number of factors would be to determine the average number of rainy days per month, and the average number of clear days for each month. It may be worth while to know how many September months it takes to approximate an average which is fairly constant. Besides furnishing a very definite conception of one or two of the elements of our weather, the process has the advantage of concentrating and stimulating the interest in future calendars. On the October, 1911, calendar, the wind direction has been added and the avenues of procedure become at once multiplied. Is there any relation between state of

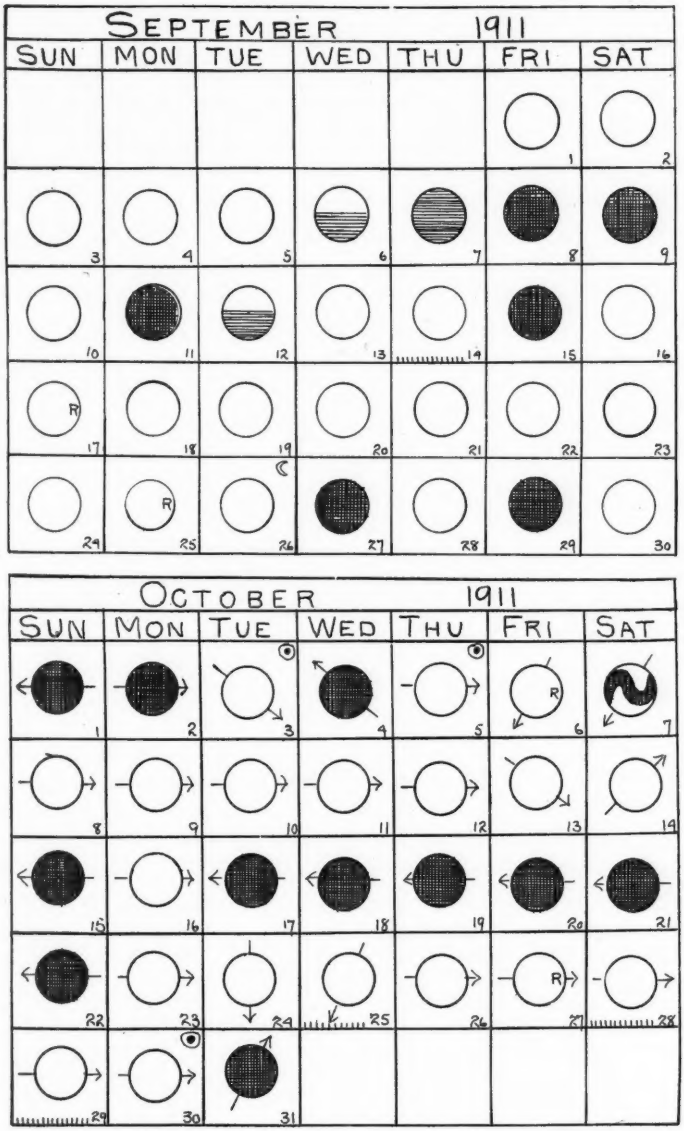
sky and wind direction? Do east winds always bring rain? How many days in the month was the wind from a westerly direction? What percentage of winds were westerly? How does this percentage compare with the following October's record? Can we find an average percentage of days per month when the winds are westerly? If now in time the temperature be added to the records, then wind velocity, amount of precipitation, and cloud forms, the number of problems becomes at once too large to undertake, so that the teacher must select those which are directly related to issues which must be understood before the climates of the world can be approached with any degree of success.

Again, the use of the weather sayings which are prevalent in any locality makes an excellent subject for investigation and allows the pupils a basis for discrimination between the true and the false doctrines of the science. Thus for the September month the following sayings are current:

1. As September, so the coming May.
2. Heavy September rains bring drought.
3. September 15 is said to be fine six years out of seven.

The first invites a comparison between the calendars of the two months. It will be found to be somewhat unsatisfactory, however, because of its indefiniteness, and the pupils will soon be willing to drop it from the list of reputable sayings. The second is also indefinite, and as soon as any attempt is made to define it by means of the calendars, it also will be dropped. The third will be disproved by a number of September calendars. In addition to the current sayings for the months, many questions will arise from sayings which have their origin in some feature which happens to arise because of special conditions; thus from the September, 1911, calendar a number of additional queries arise:

1. The time of first killing frost. When it occurred on September 14, 1911, it was generally remarked that the first frost was early. Was it? If we had the 1910 calendar, the first frost would be found to have occurred on October 12 of that year. The 1912 calendar shows first frost on October 16. An attempt might be made to find the average time of first frost. The average time of first killing frost in Worcester is about September 23.


SEPTEMBER 1911
SUN MON TUE WED THU FRI SAT
1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
R 17 18 19 20 21 22 23
24 R 25 26 27 28 29 30
OCTOBER 1911
SUN MON TUE WED THU FRI SAT
1 2 3 4 5 R 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 R 27 28
29 30 31

2. The question of the equinoctial storm. The autumnal equinox during 1911 was on September 23. Apart from a brief shower during the night of the 25th, the nearest rain occurred on the 27th. During 1912 the autumnal equinox occurred also on the 23d, and the nearest rain was on the 20th. Rain occurred at other times during the month. By means of a study of the intervals between rainy days and the number of rainy days on a series of September calendars, a proper appreciation of the value of this belief can be reached.

3. The wet and dry moon. On September 26, 1911, the crescent moon is added in position.

If the new moon appear with the points of the crescent turned up, the month will be dry. If the points are turned down, it will be wet.

This also can be settled without much trouble. All these form part of the common conversation on weather topics among a large class of people and it will not take a very long while nor very careful investigation to place the pupil alive to the power within his reach by which he may understand a few of the simple meteorological principles which are at the basis of a true and appreciative knowledge of atmospheric phenomena. In the October list are found sayings which futilely attempt to forecast the weather for the months to come. In many instances this desire to foretell weather features crops out and frequently the line between the good and the bad may be shown by the simple test of whether the immediate future or the more distant future is the object. In all of the following the distant future weather is predicted:

1. Much rain in October, much wind in December.
2. Warm October, cold February.
3. If October brings heavy frosts and winds, then will January and February be mild.
4. As the weather in October, so will it be in the next March.
5. There is often about October 18 a fine spell of fine dry weather and this has received the name of St. Luke's little summer.

The October, 1911, calendar suggests more fruitful lines of investigation than these.

1. It was rainy on the first Sunday of the month. The saying is common:

If it rains on the first Sunday of the month, it will rain every Sunday of the month.

This, it is noted, is not true for the October of 1911. With a series of calendars the evidence would soon be conclusive.

2. The lunar halo is entered on the third, the fifth, and again on the thirtieth.

A ring around the moon brings rain.

It rained on the fourth, the sixth and seventh, and again on the thirty-first. A good beginning of evidence in favor of this saying is at hand but more should be collected.

3. Snow fell for the first time during the fall on October 7. Is this early or late? What is the average time for the first snow? About this time the town character who also poses as the local "weather sharp" predicts the number of snow storms which the winter will yield. Both in the public print and through the medium of the itinerant forecaster many statements concerning the weather are expressed which the pupils ought to have some way to understand aright, and there is no way unless the events are recorded and preserved and used as data in teaching. The reason why so many unscientific remarks about the weather persist is that people do not take the trouble to follow them up. If the teacher attempts to teach weather science, she must begin with the current notions about the weather, and unless she wishes to have the wise-sounding but utterly foolish doggerel of some weather wiseacre to have more influence than her teaching, she must prepare her pupils against the fallacies of the science.

It is a common tendency to compare one season with another, and it is noticeable that the memory of people concerning weather events is fickle. This is not strange. It is the expectable thing, as events make their impressions of varying degrees according to circumstances. Consequently the comparison of one month with the corresponding one of another year and, better still, the corresponding ones for a series of years, will do much to overcome the tendency of misrepresenting, to oneself at least, the conditions of the seasons, and at the same time an estimate may be gained of the limits of variations of the seasons. Many lessons about the weather are poorly taught because the teacher has no evidence on

hand, no data for the problem, or no facts to lead toward a generalization, and so the memory is invoked and comparisons are made until it were better if the subject had not been begun. And thus it is commonly the case that when November comes, every year there is a feeling that the days are unusual for the time of year. Our literature enforces the belief for we have read in the schools,

> November's sky is chill and drear
> November's leaf is red and sear.

or

> When chill November's surly blast
> Made fields and forests bare.

The November conditions in the land of Scott and Burns are not necessarily the features of our November weather. The November calendars for 1911 and 1912 show a preponderance of sunny days, nineteen each. During 1911 there were seven rainy days and during 1912 there were six. Traces of snow are shown on the 1911 calendar, while on the 1912 calendar, two snowy days, the 25th and the 28th, are recorded. If the temperature had been reproduced, a slight difference would be apparent and this is indicated somewhat by the wind direction. During November, 1911, there were three days with a southwest wind which gives us the genial weather of the Indian Summer type; during November, 1912, there were ten. If the three fall months are considered, there will be found to have been more days with a southwest wind during 1912 than during 1911. One more lesson can be taken from these two calendars. On Thursday, November 28, 1912, Thanksgiving Day, it snowed. About this time, the oldest inhabitant is telling about Thanksgiving Days when he was a boy, and the believer in the "old-fashioned winter" has much to say about the snow and ice which used to exist on Thanksgiving Day. In this direction also our calendars if they are saved can be of service.

This article is printed in the hope that the material may be suggestive; that some teachers who are struggling vainly toward some method of gaining interest in the weather may be moved to fresher trials, and that the teachers who have in a desultory way, month after month, gone through the form of making the calendar may find inspiration in their labor and in the facts which have been so slowly gathered.

A STRONG MOTIVATION FOR ARITHMETIC WORK

CASSIE L. PAINE
Boston, Massachusetts

In a certain school, a class of twelve sixth-grade children were allowed to work in a group by themselves. These children were not defective mentally, but were somewhat slow and indolent, and had little in their home life to stimulate vigorous intellectual activity. They had lagged more or less through the grades, all having failed of their last promotion, and several having failed at other times. They were generally deficient in all school subjects and particularly deficient in arithmetic and language.

In attacking the problem of having the children make up their deficiencies, there seemed to be two courses that might be pursued. One was to compel each child by coercion to complete a minimum amount of the required work, and another way was to arrange situations so that the children would see the need of obtaining knowledge, and therefore have a desire to do so.

The arithmetic work was at the stage where the four fundamental operations in common fractions, decimal fractions (U.S. money), and denominate numbers should be fixed. Problems of two or three steps involving these operations should be interpreted and performed, and the subject of percentage begun. The children disliked the ordinary drills in reading and writing decimals, in computing fractions, etc., and frankly said so. When given a problem involving reasoning, they began to work on it with no intelligent interpretation of its purpose, and half-heartedly tried one operation after another until in some way or other the correct answer was obtained.

The idea was conceived that if those children could realize the value in their own daily lives of accurate and intelligent computation, it would give them an incentive to acquire the necessary information. It was therefore decided to let them practice running a grocery store, and get the motive for their work in arithmetic

that way. The plan was laid before the children and they entered into it with great enthusiasm.

The place selected for the store was a set of shelves upon which the schoolroom supplies were kept. It involved considerable work to move these supplies to other places, to clean the shelves, to find and hang curtains to cover the unused part, etc. But the children were willing to take any amount of time out of school hours and to go to any trouble for this purpose. Several firms, such as the National Biscuit Co., The Sunshine Biscuit Co., Heinz Pickle Co., were reported to be very willing to furnish samples of goods, empty cartons, etc., to schools to be used in this way. Consequently, the children were allowed to write to the several firms in regard to the matter. This was excellent practice in writing business letters.

As there was considerable delay in getting the goods, the children suggested that they bring things from their own homes to use while waiting for the others. This was allowed, and the accompanying photograph shows the result. Without direction from the teacher in charge, the children brought empty bottles, boxes, cans, etc., from their homes, mended the mutilated places, filled the transparent receptacles with materials that were similar in appearance to the original contents, wrote the prices in inconspicuous places, and arranged the goods on the shelves as in the picture. A money drawer was made, and measures and baskets of various kinds were procured.

The children decided upon the name of their store and made the sign. In order to do this, accurate measurements had to be taken and followed; rather careful arithmetical computations were also necessary in order to divide the space correctly. In the manual-training room, the boys made blocks of wood to represent cakes of soap to fit various soap wrappers that were brought. Wooden yeast cakes were also manufactured in the same way. A file was made for the sale slips and a hook upon which to hang the paper bags. The head of a butter firkin was covered with yellow paper, to represent butter and a block of wood covered with the same material represented the piece to be sold. For the sale slips a long strip of paper that came from a roll of ribbon was folded

SOUTH SALEM
GROCERY STORE
SALE
Salt
Butter
Eggs
Coffee

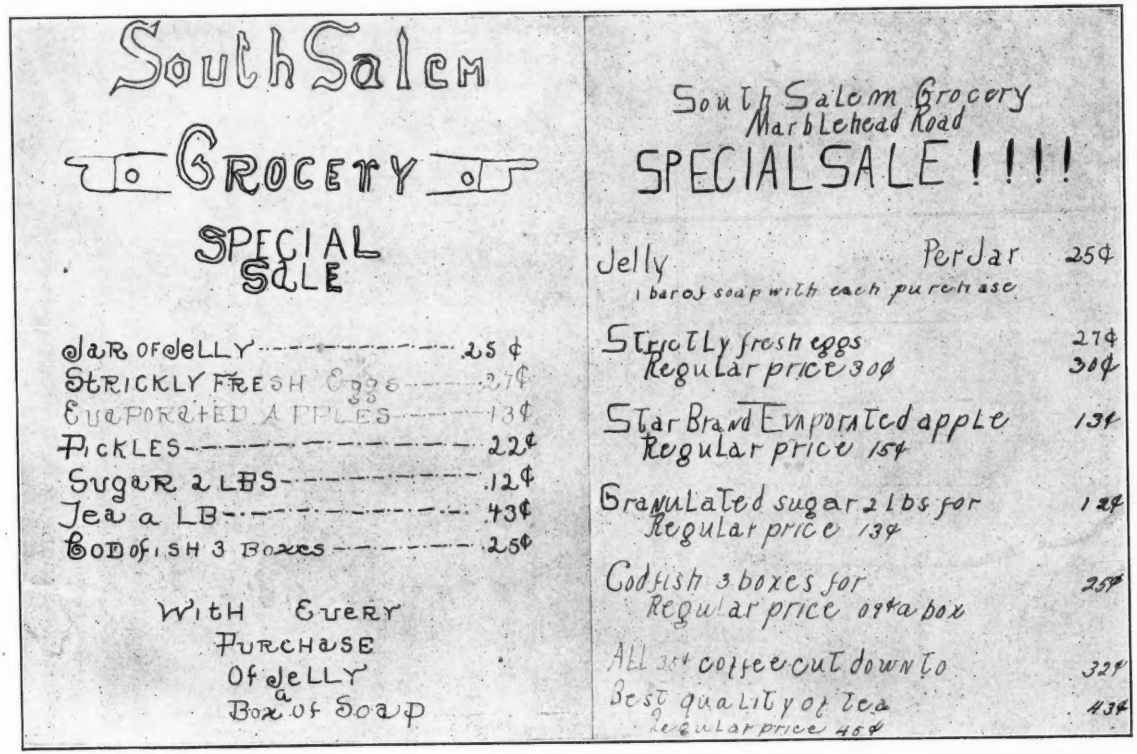
into uniform-sized pieces, and put into a box, through the cover of which one end protruded.

In order to keep up with the market prices, the children were obliged frequently to interview the various near-by grocers for the latest prices of the goods they carried. A slate was brought from one of the playrooms at home, upon which some child arranged and printed daily a price list that was hung in sight for the convenience of the customers. The children took turns in being storekeeper, bookkeeper, and store boy, and could actually "deliver the goods" in return for (toy) money. The other children, and frequently the teachers, were customers, and often a rather knotty problem in fractions would occur as a result of the transactions.

The storekeepers usually gave a discount for cash payments, and occasionally there would be discounts on all the sales during a limited period of time. Special sales for certain days were arranged and announced, as the accompanying photograph shows. Here the practical work in accurate computations in decimal fractions, in profit and loss, and in percentage took on a real meaning, and it was very interesting to see how seriously the children discussed the pros and cons of selling the different articles at a reduction.

The wholesale side of storekeeping was also attacked, and this involved work with larger numbers. The children took an inventory of goods on hand, and made an invoice of goods (that might have been) received from other firms. They planned a "supply" garden and made an estimate of the new stock for the store that might reasonably be expected from the garden. They kept weekly accounts of the running of the store, and reckoned up their "financial standing" every Friday.

All this represented the interesting "play" side of the work, but the educational problems did not stop there. After actually going through the bargaining at the store, each child wrote out his individual transaction in the form of a problem. This problem at a later date was given the other members of the class to do. This gave the children an intelligent appreciation of the purpose of a problem, and it formed an apperceptive basis for the interpretation of other arithmetical problems. It also gave the children needed practice in stating clearly the main facts of the trans-



South Salem

GROCERY

SPECIAL SALE

JAR OF JELLY ---------- 25 ¢
STRICKLY FRESH Eggs ---------- 27¢
EVAPORATED APPLES ---------- 13¢
PICKLES ---------- 22¢
SUGAR 2 LBS ---------- 12¢
TEA a LB ---------- 43¢
CODFISH 3 BOXES ---------- 25¢

WITH EVERY
PURCHASE
OF JELLY
A BOX OF SOAP

South Salem Grocery
Marblehead Road

SPECIAL SALE !!!!

Jelly Per Jar 25¢
1 bar of soap with each purchase

Strictly fresh eggs 27¢
Regular price 30¢ 30¢

Star Brand Evaporated apple 13¢
Regular price 15¢

Granulated sugar 2 lbs for 12¢
Regular price 13¢

Codfish 3 boxes for 25¢
Regular price 09¢ a box

ALL 35¢ coffee cut down to 32¢
Best quality of tea 43¢
Regular price 45¢

action. Below are some of the problems made out by the children in this way.

I went to the store and bought 1½ lbs Confectioner's sugar @ 8 ¢ lb. 1½ lbs Brown sugar @ 7 ¢ lb. 5 lbs granulated sugar @ 6½ ¢ lb. Find total cost. How much change will I receive from $2?

On a Bargain Day I bought 3 lbs butter at 34½ ¢ 4 boxes of Butter thin @ 9½¢. They allowed 10% on cash.

A woman bought 1 can cocoa @ 22 ¢ and 2 qts. milk @ 8 ¢ qt. She gave the clerk $1 and received $.72 in change. How much extra change did she receive?

If 2 boxes of butter thins cost 10 ¢ per box and ½ lb of butter at $.35 per lb. Cost?

If I pay the bill at once he will give me a discount of 7 per cent and I give him a ten dollar bill what was the change I got back?

If I go to the store with a dollar bill and buy 1 can of Tea @ 45 ¢, and 1 can of Backing Powder @ 25 ¢, 2 pounds of Sugar @ 13 ¢, 1 doz. Eggs 33 ¢, and 1 pkg Quaker Puffed Rice 10 c. How much more did I owe him.

Find the cost:

1 bag salt @ .10
1 box candy @ .35
1 box Uneeda @ .05
1 box White House coffee @ .25 can
Change from 1.00

I went to the store and bought 1 bottle Ammonia @ 10 ¢ bottle, 1 can Baker's Cocoa @ $.22 can, 1 pkg. Quaker Oats @ $.10 pkg., 1 bottle Malted Milk @ $ 25 ¢ bottle, 1 pkg. Not-A-Seed raisins @ $.10 ¢ pkg. and 1 doz. eggs @ $.33 doz. How much will I pay after 10 per cent has been taken off?

If I buy 1 box of chocolates at 1.00, and a Jar of Jam at .25, an a can of sugar of Milk at $.33,. How much will I pay if I get 3 per cent off from all the goods that I have bought.

The running of the store gave material for some of the written work in English. The children usually disliked writing compositions, but these copies of their first drafts will show how spontaneously they could write when the subject was something in which they were really interested.

OUR GROCERY STORE

EVERETT

April 11, 1912.

We started a store in our room. All of us children brought boxes from home, and stuck them together with mending tissue and after we had a great many boxes. One day Aruthur and I came in early and put the store in condition. Miss P. came in and she thought it just grand. She asked us if we evered decorated a window in a store. We opened our store Tuesday morning at nine o'clock. I was the keeper the first day. We had a price list on our goods. The children were the customers. The gave me the money and I gave them the change. We made problems from what we bought.

OUR GROCERY STORE

EDITH

April 17, 1912.

The first thing we did was to send letters to the large biscuit companies. We have not received any thing yet. The store is in the front of the room. Mr. W. took some pictures of it. We have paper money. The store is open at nine o'clock. There are chocalates, cocoa, Quaker oats, malted milk and a grate many more things that I can not name. Everrett was the first storekeeper. Miss P. has been in and bought things. Our store is called the "South Salem Grocery Store." Each one of us made one or to letters. It was open April 1, 1912.

OUR GROCERY STORE

ARTHUR

April 16 1912

We sent to three different places for sanple boxes and not receiving any, we brought boxes from home. We cleared off the shelves and Everett and I placed the boxes on the shelves. We opened the store the second day of April. Everett was the store keeper. We each bought something, and then Miss P. came in and bought something. We made up examples on the good we bought. We are making a sign. The name of the store is the South Salem Grocery Store.

OUR GROCERY STORE

AUGUSTE

april 12 1912

We wrote to the National Biscuit Co to have some sample boxes of biscuit be did not have any answer so we bought things from home, empty boxes of Uneeda biscuit, Baker's cocoa, Baking powder and other things. Everett and Arthur fixed the things on the shelvs and now we buy things.

I was store keeper the first day. I knew how to run a store because i had one last summer. When they bought for a big sum I allowed discount, and

then we made problem. We use paper money. I enjoyed very much my first day in the store. The name of our store is South Salem Grocery Store. We made our own letters and we pasted them on the paper. We had the picture taken and it came out good.

(These problems and compositions are exact copies of the children's uncorrected first drafts. They are given, not to show accuracy of form, but evidence of thought on the part of the writers.)

It would be almost impossible to tell of the different ways in which the children showed the benefit of this kind of *live* arithmetic work. In the first place, they had a genuine desire to attend school and to work after they got there. They could exercise their creative ability in providing make-believe goods. They had practice in transacting business courteously. They gained much in speed and accuracy of computation without pencil and paper. They acquired confidence and intelligence in stating their wants and in judging the value of what they received. They had a feeling of responsibility in the care of the store, and saw the value of neatness, order, attractive arrangement of goods, etc. They realized the necessity of knowing how to write business letters, make out bills, receipts, and various other common business forms. They saw the importance of clear, legible writing and printing. They had the satisfaction of being able to state and perform problems, the conditions and results of which were concrete and actual. In their written English periods they had something to write about and a desire to make what they wrote interesting. But, perhaps, best of all, was the joy they experienced in originating ways of supplying actual needs. These children had never before had the feeling that their contributions to a class were of much use. Now they saw the actual value of what they could give, and this knowledge gave them a hitherto unknown feeling of encouragement and confidence in themselves.

THE STATUS OF SCIENCE TEACHING IN THE ELEMENTARY SCHOOLS OF THE UNITED STATES

PERCY E. ROWELL
Berkeley, California

One of the unsettled questions of the day concerns itself with the importance of science teaching in the grammar grades. There are many reasons why science should be taught in the grades, and there are but two reasons given why it cannot be taught. The latter are the crowded curriculum and the unpreparedness of the teachers, both of which may be remedied and gradually abolished.

The reasons for science in the grades fall under two heads: the personal and the economic. There is more to learn now than formerly, and the need for scientific education is becoming more pressing. Seventy-eight per cent of those who enter the grades do not go to high school, and if there is no scientific study given during these years the 78 per cent will never receive any real instruction in science. Again, science is so stimulating that its general introduction into the grades could do more toward retaining in the schools some of the 78 per cent than can any other study, and, in addition, it might arouse the ambition of some to take up a more advanced study of science.

The child cannot be aware of his need for science. The need becomes more apparent as scientific knowledge increases. It is society, however, which benefits most by the child's knowledge of science. The nature of scientific training is such that the child acquires habits of orderly and creative thinking; of reasoning from cause to effect. These habits will outlive the scientific facts which have led to their formation. Dewey has said: "We need to develop a certain active interest in truth and its allies, a certain disposition of inquiry, together with a command of the tools which make it effective, and to organize certain modes of activity in observation, construction, expression, and reflection." Science teaching may be made the study pre-eminently fitted for producing these results.

That community in which a large proportion of its citizens has had some scientific training will be well advanced economically.

In an attempt to ascertain the status of science teaching in the grades throughout the United States, a questionnaire was prepared and sent to all of the states, according to their population. Approximately one questionnaire was sent for each one hundred thousand inhabitants, or 872 in all. Of these, there were received 282 replies, making 32 per cent of returns. The list of questions follows:

1. Do you believe in science teaching in the elementary grades?
2. Should science be taught as a separate subject?
3. In what grade do you think science teaching should begin?
4. What object should be sought in the teaching of science in the grades?
5. How may this object be attained?
6. What should the science material consist of?
7. Do you think that science in the grades should lead toward the industries or toward general information and development?
8. How early should the pupils be required to make formal experiments?
9. How early should the pupils keep a formal record of their work?
10. What science or sciences does your school give in the grades?
11. What are the grades in which science is taught and what science is taught in each grade?
12. What is the method of presentation of the science in your school?
13. Do pupils tend to reason from one fact to another or is their knowledge more like a series of facts which are unrelated?
14. What interest do the boys show in the science work?
15. What interest do the girls show in the science work?
16. Does science aid in the other studies, either in time or understanding?
17. Does science work tend to keep the pupils in school longer?
18. Does science work tend to increase the number of pupils who go to high school?

Early in the work it was found necessary to reduce the number of kinds of answers, in order to draw any conclusions from the replies. Although there were but eighteen questions, soon the number of varieties of answers reached 287. By careful adjustments this number was reduced to 147, the later replies being filed under the headings which corresponded the closest with them. The information, which was received from the whole United States, is given in the form of summary tables. There is added a list showing the sources of the information.

KEY 1

Do you believe in science teaching in the grades?

Answers:

		Base 282 Number	Percentage
A.	Yes	234	83
B.	Yes—as nature-study	22	8
C.	Not as a definite subject—as correlation	12	5
D.	No	14	5
		282	Base

KEY 2

Should science be taught as a separate subject?

Answers:

		Base 277 Number	Percentage
A.	Yes	110	40
B.	Yes—as geography	8	3
C.	Yes—as nature-study	19	7
D.	Yes—as physiology and hygiene	8	3
E.	Yes—in sixth, seventh, and eighth grades	31	11
F.	Both separate and as correlation	18	6
G.	No—as correlation	82	30
H.	Not with a text	1	..
		277	Base

KEY 3

In what grade should science teaching begin?

Answers:

		Base 264 Number	Percentage
A.	Kindergarten—as nature-study	18	7
B.	First grade	117	44
C.	First grade—as nature-study	20	8
D.	Third or fourth grade	40	15
E.	Fifth grade	23	9
F.	Sixth grade	17	6
G.	Seventh grade	22	9
H.	High school	7	3
		264	Base

KEY 4

What object should be sought in this science teaching?

Answers:

		Base 406 Number	Percentage
A.	Information concerning common things and phenomena. Laws	107	26
B.	Observation and explanation of phenomena, training in observation	99	24
C.	Broadening of interests	52	13
D.	Habits of thought, reasoning power, scientific spirit, exactness	57	14
E.	Appreciation and love of nature	38	9
F.	The place of self in the environment	17	4
G.	Practical knowledge	19	5
H.	Preparation for high school or for future work	9	2
I.	Culture	8	2
		406	Base

KEY 5

How may this object be attained?

Answers:

		Base 262 Number	Percentage
A.	Good teaching—teach the child *as* a child—good syllabus	91	35
B.	By experiments by the pupils—real objects.	60	23
C.	Observation *and* application—assembling facts, explanations; clear and accurate statements	47	18
D.	Observing *living* animals and plants with *guidance*	28	11
E.	By selecting general informational subjects	12	5
F.	By excursions, visits to manufacturing plants, etc	13	5
G.	By readings and lantern lessons	6	2
H.	Textbook in the hands of pupils	5	2
		262	Base

KEY 6

What should the science material consist of?

Answers:

		Base 247 Number	Percentage
A.	Phenomena of the environment	124	50
B.	Objects, specimens, especially alive, pictures, simple apparatus	30	12
C.	Nature-study—elementary science in the seventh and eighth grades	40	16
D.	*All* sciences	19	8
E.	Products of man's work—industries	9	4
F.	The relations of self to the rest of the world.	7	3
G.	The use of textbooks	5	2
H.	Good teaching and much laboratory work	10	4
I.	Agriculture, physiology, biology, gardens	3	1
		247	Base

KEY 7

Should science lead toward industries or general information and development?

Answers:

		Base 260 Number	Percentage
A.	General information and development	147	57
B.	Industries	12	5
C.	Industries in upper grades	11	4
D.	Both	70	27
E.	Both—emphasis on industries	10	4
F.	Both—emphasis on general information	10	4
		260	Base

KEY 8

How early should pupils make formal experiments?

Answers:

		Base 240 Number	Percentage
A.	At the beginning of science work	29	12
B.	No time can be set	16	7
C.	First grade	20	8
D.	Third grade	13	5
E.	Fourth grade	14	6
F.	Fifth grade	18	8
G.	Sixth grade	26	11
H.	Seventh grade	57	23
I.	Eighth grade	19	8
J.	High school	28	12
		240	Base

KEY 9

How early should pupils keep a formal record of experiments?

Answers:

		Base 236 Number	Percentage
A.	From the beginning of science work	42	18
B.	No time can be set	12	5
C.	First grade	4	2
D.	Third grade	17	7
E.	Fourth grade	14	6
F.	Fifth grade	18	8
G.	Sixth grade	23	10
H.	Seventh grade	53	22
I.	Eighth grade	21	9
J.	High school	32	14
		236	Base

KEY 10

What sciences does your school teach?

Answers:

		Base 401 Number	Percentage
A.	Agriculture	30	7
B.	Biology	11	3
C.	Botany	18	4
D.	Elementary science (physics and chemistry)	38	9
E.	General science	61	15
F.	Geography	40	10
G.	Hygiene (sanitation)	21	5
H.	Incidental	7	2
I.	Meteorology	5	1
J.	Nature-study	79	20
K.	None, or very little	25	6
L.	Physiology	66	16
		401	Base

KEY 11

In what grades are the different sciences taught, or is the work general?

Answers:		Base 270 Number	Percentage
A.	Nature-study in all grades	47	17
B.	Nature-study in lower grades	21	8
C.	General science in all grades	61	23
D.	General science in lower grades	10	4
E.	General science in eighth grade	7	3
F.	Physics in upper grades	25	9
G.	Physiology in all grades (hygiene and sanitation)	25	9
H.	Physiology in fourth to eighth grades	25	9
I.	Geography in all grades	9	3
J.	Geography in fourth to eighth grades	9	3
K.	Incidental	7	3
L.	Agriculture in fourth to eighth grades	24	9
		270	Base

KEY 12

What is the method of presentation of science in your school?

Answers:		Base 214 Number	Percentage
A.	Experiments by teacher *and* pupils	62	28
B.	Experiments by teacher, observation and record by pupils	17	8
C.	Object method	37	17
D.	Observation and deduction	14	6
E.	Oral—inductive	31	14
F.	By book and experiment	27	12
G.	Talks, grades 1–3; text, grades 4–8	6	3
H.	Various methods; depends upon the teacher	20	9
		214	Base

KEY 13

Do pupils reason or is their learning a series of facts?

Answers:		Base 191 Number	Percentage
A.	Series of facts	71	37
B.	Progressive reasoning	43	22
C.	Both	10	5
D.	They learn to relate slowly	31	16
E.	Try to teach reasoning	16	8
F.	It depends upon the teaching	14	7
G.	Not prepared to answer	6	3
		191	Base

KEY 14

What interest do boys show in the science work?

Answers:		Base 179 Number	Percentage
A.	Excellent	41	23
B.	Good	60	33
C.	Experimental work liked best—the doing	26	15
D.	More than in any other subject	6	3
E.	Same as in any other study	21	12
F.	More than the girls	13	8
G.	Everything depends upon the teacher	12	7
		179	Base

KEY 15

What interest do girls show in the science work?

Answers:		Base 177 Number	Percentage
A.	Excellent	20	11
B.	Good	18	10
C.	Good in adapted work	21	12
D.	More than the boys	3	2
E.	As much as the boys	68	39
F.	Hardly less than the boys	9	5
G.	Less than the boys	29	16
H.	More *lively*—less real interest than the boys	4	2
I.	Same as in any other subject	5	3
		177	Base

KEY 16

Does science aid the other studies in time or in understanding?

Answers:		Base 198 Number	Percentage
A.	Yes, in one or the other	102	52
B.	Both	31	16
C.	Understanding	15	8
D.	Yes, in geography	7	4
E.	Yes, especially for oral and written expression	6	3
F.	Somewhat, in one or the other	7	4
G.	Like other studies if well taught	9	5
H.	No	6	3
I.	Hard to tell	15	8
		198	Base

KEY 17

Does science tend to keep pupils in school longer?

Answers:

		Base 195 Number	Percentage
A.	Yes	73	37
B.	Probably—I think so—I believe so	26	13
C.	Think not	12	6
D.	Not to a marked degree (like other subjects)	18	9
E.	No	15	8
F.	Don't know—can't tell—hard to tell	51	26
		195	Base

KEY 18

Does science work increase number of pupils going to high school?

Answers:

		Base 194 Number	Percentage
A.	Yes	76	39
B.	Probably—I think so—I believe so	29	15
C.	True of any subject well taught	7	4
D.	No	23	12
E.	Don't know—no evidence—hard to tell	59	30
		194	Base

There can be no doubt that educators believe that science should have a place in the curriculum of the grades. While 83 per cent of the replies are unqualifiedly in favor of science teaching, 8 per cent limit science teaching to nature-study and 4 per cent believe that it should be given as correlation. A small minority, 5 per cent, are decidedly opposed to science teaching in the grades, and their opposition is based upon the fact that the curriculum is already too crowded and that teachers are not prepared to take up science teaching.

That science should be taught as a separate subject is believed by 40 per cent; that it should be geography by 3 per cent, nature-study by 7 per cent, physiology and hygiene by 3 per cent, and that it should be taught only in the upper grades by 11 per cent. This makes a total of 64 per cent who are in favor of science as a separate subject. It will be noticed that 30 per cent are in favor of science

DISTRIBUTION OF QUESTIONNAIRES AND REPLIES

Number	State	Number Sent	Number Received	Percentage Received	Number Normals	Percentage Normals
1	Alabama	24	7	28	0	0
2	Arizona	6	1	17	1	100
3	Arkansas	14	3	21	0	0
4	California	59	26	44	4	15
5	Colorado	9	2	22	1	50
6	Connecticut	10	5	50	2	40
7	Delaware	3	0	0	0	0
8	Dist. of Columbia	10	4	40	1	25
9	Florida	5	1	20	0	0
10	Georgia	13	3	23	0	0
11	Idaho	4	1	25	1	100
12	Illinois	62	23	37	5	21
13	Indiana	33	12	36	0	0
14	Iowa	19	7	39	1	14
15	Kansas	13	5	38	2	40
16	Kentucky	18	6	33	2	23
17	Louisiana	9	5	55	2	40
18	Maine	9	3	33	2	66
19	Maryland	5	0	0	0	0
20	Massachusetts	35	10	29	2	20
21	Michigan	29	10	34	0	0
22	Minnesota	24	5	21	2	40
23	Mississippi	14	1	7	0	0
24	Missouri	22	7	32	0	0
25	Montana	6	1	17	0	0
26	Nebraska	16	6	37	2	33
27	Nevada	3	2	67	2	100
28	New Hampshire	4	4	100	1	25
29	New Jersey	27	11	41	2	18
30	New Mexico	6	2	33	1	50
31	New York	64	18	28	2	11
32	North Carolina	7	1	14	0	0
33	North Dakota	9	1	11	1	100
34	Ohio	62	21	34	2	10
35	Oklahoma	8	2	25	1	50
36	Oregon	7	1	14	0	0
37	Pennsylvania	50	18	36	3	17
38	Rhode Island	5	2	40	0	0
39	South Carolina	7	2	29	1	50
40	South Dakota	9	5	55	2	40
41	Tennessee	14	3	21	0	0
42	Texas	29	4	14	2	50
43	Utah	5	3	60	0	0
44	Vermont	4	2	50	1	50
45	Virginia	14	1	7	0	0
46	Washington	16	7	44	1	14
47	West Virginia	11	4	36	2	50
48	Wisconsin	35	12	34	4	33
49	Wyoming	5	1	20	0	0
	Totals for United States	872	282	32	58	21

teaching as correlation, although in Question 1 only 4 per cent so indicated their belief. This is probably due to the division of their replies and 30 per cent may be taken as the correct percentage of teachers who believe in correlation of science work. Be this as it may, a large majority of teachers are in favor of science as a separate subject in the grades. The crowded condition of the curriculum does not seem to prevent the introduction of science as a new subject.

The grade in which science teaching should begin is undoubtedly the first, 52 per cent so believing. Of these 8 per cent would limit the science to nature-study. A second maximum is reached in the third or fourth grade with 15 per cent. It is quite apparent that the majority of teachers believe that there should be instruction in science throughout the entire grammar-school course. A small percentage believe that it should begin, as nature-study, even in the kindergarten.

The object of science teaching in the grades would seem to be information concerning common things, a proper observation of them, and a reasonable explanation for their occurrence. Those in favor of information concerning everyday phenomena number 26 per cent, while 24 per cent believe that training in observation and the explanation of phenomena are the desired objects. Broadening of interests, as an object to be sought in science teaching, is indicated by 13 per cent, and reasoning power, as a goal, is stated by 14 per cent of the replies. Practical knowledge, as a desired aim of science teaching, wins the support of but 5 per cent. This seems odd in this age of utilitarianism, and will be taken up again in Question 7.

Though rather decided that science should be taught so as to give information and to develop powers of observation, there is not much information given in regard to methods of obtaining this result. Good teaching as a method is given by 35 per cent, but all educators are in favor of good teaching. The question is, What is good teaching in science? It must be different from the usual methods of teaching in the other subjects of the grades. The answer that the object of science teaching may be attained by

observation *and* application, by assembling facts, and giving explanations in clear and accurate statements, while receiving but 18 per cent of the replies in its favor, is probably the truest solution. Experiments by the pupils, excursions, and readings, in fact all of the devices of teachers of science, are of little value without the use of this method. Mere observation is useless unless it can be fixed by the concrete example, by many concrete examples. The acquisition of facts is incomplete unless they can be grouped according to the child's idea, to be sure, around some central fact, while clear and accurate statements of fact are the only evidences of real knowledge. Unless a child can explain phenomena, he does not know their reason for existing. There is too much learning of word formulas and too little learning of ideas. Good teaching *is* necessary, but good teaching can be given only by good teachers.

As science material, the phenomena of the environment leads with an even 50 per cent. This is as it should be. Our knowledge, especially when we are young, should be concerned with a good understanding of our immediate surroundings. Later the sphere of knowledge may be enlarged, and that sphere is the most stable which has the solidest core. Closely connected with the environment, objects and specimens as science material meet the favor of 12 per cent. Nature-study and elementary science meet the approval of 16 per cent, while 8 per cent believe that all of the sciences should contribute material for a science course in the grades. As a source of material, 4 per cent mention the industries. The fact that only 1 per cent believe in agriculture and garden work is the most surprising answer of all.

There seems to be much indefiniteness in regard to the content of nature-study. Naturally a complete study of nature must embrace nearly all scientific knowledge. The definition that nature-study is limited to plants and animals seems best. If that is accepted there need be no doubt as to the material which is to be studied. To study the phenomena of the environment in a satisfactory manner necessitates the introduction of material from all of the sciences. Note that this is not the same as saying that it is necessary to teach all of the sciences in the grades. The different sciences are but artificial, man-made divisions of phenomena,

and in the grades—if not also in the high school—the phenomena should be studied irrespective of the sciences of which the scientist deems that they are a part. Such a collection of everyday, useful phenomena may well be given the name of general science.

The question whether science teaching in the grades should lead toward general information and development or toward the industries is answered in favor of the former by 57 per cent, while but 5 per cent lean toward the industries. That both should be the goal of science teaching is believed by 27 per cent. These replies must cause some surprise in this so-called commercial age. It was noted in Question 4 that practical knowledge as an object of science teaching is favored by but 5 per cent. It is interesting to see that 5 per cent also believe in the industries. It is still more interesting to discover, by reference to the original replies, that only one individual who believes in practical knowledge is found among those who believe in the industries. We must conclude that by practical knowledge is meant, not money-making ability, but real mental development which shall be lasting and beneficial to its possessor and also to the community. There is no reason why general information and development may not produce the most practical education possible. The poorest preparation for a given occupation is the one which ignores the interrelations of all lines of work, and concerns itself with but the one. Just as the rays of light diverge from their source, so must the lines of thought spread out and envelop all things, until the lens of specialization brings to a focus those lines of thought which are strongest and clearest. Woe be to him who holds his lens too close to the source.

The place where formal experiments should be performed seems to be in the seventh grade, 23 per cent so indicating their belief. This percentage is small, due to the fact that each grade has its advocates. That formal experiments belong in the high school is indicated by 12 per cent. In both Questions 8 and 9 there seems to be considerable misunderstanding in regard to the word "formal." "Formal experiments" and "formal records" were intended to mean experiments and records having definite or regular form, but both being adjusted to the capacity of the child and therefore natural. It is possible that it was this misinterpretation of the question which led to such diverse answers.

The seventh grade also leads with 22 per cent as the place where formal records of experiments should be kept. While in Question 8, 12 per cent believe that formal experiments should be made at the beginning of science work, in Question 9, 18 per cent believe that formal records should be kept from the beginning. This is explained when it is noticed in Question 12 that many experiments are performed by the teacher while the pupils make the record. Thus the records by the pupils may easily precede the performance of experiments by them.

The answers to Questions 8 and 9 strongly indicate that there is a decided break in the grades between the sixth and seventh years. Some of the other answers also point this same way, and there can be no doubt that the introductory high school, or, as it is also called, the intermediate high school, is based upon correct principles. If science is taught in no other grades, it surely should be part of the curriculum of the seventh and eighth grades, and its nature should be broad and general.

The answers to Question 10 are greater in number than the number of questionnaires which were returned because many of the replies gave two or more different sciences. A comparison of the popularity of the various sciences is nevertheless possible. Nature-study still leads, receiving 20 per cent, but it is on the decrease, due to a growing dissatisfaction because it does not seem to meet the requirements of the child. There are so many other things which he wishes to know in science that information concerning plants and animals, although desirable, is not sufficient. Physiology comes next to nature-study with 16 per cent, while general science is a close third with 15 per cent. If, however, elementary science is taken to be the same as general science, then the latter leads all, having 24 per cent. When we remember that, in the replies to Question 6, 50 per cent are in favor of phenomena of the environment as a source of science material, and when we consider that these phenomena must of necessity be the manifestations of all of the sciences, it seems quite evident that general science is the coming study for the grades.

Referring again to the answers of Question 6, it is seen that only 1 per cent believe that the science material should be drawn from

agriculture, physiology, biology, and garden work, while in the replies to Question 10, 7 per cent state that they are teaching agriculture, 3 per cent biology, 4 per cent botany, and 16 per cent physiology, making a total of 30 per cent. The natural conclusion is that 29 per cent are teaching these studies, although they do not believe that they are the best sources of science material. This conclusion is a little offset by the fact that a larger percentage of city schools than country schools replied. This doubtless explains why only 7 per cent of the schools from which replies were received are teaching agriculture. Even if this is the reason, it seems strange that such an important subject is not gaining ground faster in the elementary schools, since it is winning such a strong hold upon the high schools of this country. It may be that it is a study which is too highly specialized for the grades.

Although required and taught in most schools, geography receives in its favor but 10 per cent of the answers. Probably most teachers do not consider geography as a science. The smallness of the number of schools in which no science is taught, namely 6 per cent, is a good sign and strengthens the replies to Question 1.

The answers to Question 11 show that elementary science and general science were considered as being the same. Grouping answer A with answer B, and combining answers C, D, and E, general science has 30 per cent in its favor and nature-study has 25 per cent. Comparing answer A with answer C, it is seen that general science leads nature-study *in all the grades* in the ratio of 23 to 17. The variations in the percentages of the replies to Questions 10 and 11 are due to the different number of answers. While 401 replies were given for Question 10, only 270 replies were received for Question 11. It might not be out of place to suggest that in the comparison of the answers to different questions the number replying should be noted as well as the percentage.

As a method of presentation of science in the grades, experiments by teacher *and* pupils leads with 28 per cent, while the object method, which is doubtless the same as the experimental method, comes next with 17 per cent. It is quite evident that science, even in the grades, has outgrown the memoriter method. However, as many of the replies suggested, the experiments to be performed by

the pupils should be simple, and those which do not require exact measurements or much detail work. The experiments should direct the child's *activity* and not tend to cramp him in his quest for scientific knowledge. Better a few self-discovered facts that live and have a meaning than many teacher-imposed "facts" which are but word formulas, and affect the child but little.

That the knowledge which the pupils of the grades acquire is a series of more or less unrelated facts is indicated by 37 per cent of those who replied. Besides these, 16 per cent believe that children only slowly learn to relate a new fact with facts previously known. On the other hand, 22 per cent think that such pupils possess progressive reasoning power. The 7 per cent who believe that the results depend upon the teacher, and the 8 per cent who state that reasoning power should be taught as far as possible, while not directly answering the question, do point the way to better things. Reasoning power can be developed in no way better than by means of science work, or through the application of scientific methods to the other work of the grades. Since science teaching has not been given in the grades long enough for the other subjects to be affected by its methods, it should be given a more important place in the curriculum, not alone for its own sake but in order that it may exert an energizing influence upon the whole course of study. All lines of study should encourage the child's What? How? and Why? to the fullest extent—and then satisfy him with ideas, not give him words as empty as sounding brass.

The answers to Questions 14 and 15 show that the interest in science work in the grades is very good. Only 12 per cent believe that science work attracts no more interest than the other studies. The evidence that boys show more interest in science than is shown by girls is not very strong, although 16 per cent so state, since 39 per cent believe that girls show as much interest as the boys. It is doubtful if there is much differentiation in educational interest before the high-school age.

The evidence that science aids the other studies both in time and in understanding is decidedly conclusive. Combining the first six replies, it is seen that 87 per cent consider that its effect upon the other studies is very beneficial. In comparison with this, the 3 per

cent who think that science does not aid the other studies seem to be in the hopeless minority. In justice to them, as well as to the 8 per cent who found it a hard question to answer, it must be said that several stated that if the science teaching in their schools could be improved it would aid the other studies. This again brings up the matter of better prepared teachers who can teach science.

The answers to Questions 17 and 18 must prove of great interest to all educators. If 50 per cent believe that science work in the grades tends to keep the pupils from leaving school, and if 54 per cent believe that it tends to increase the number of pupils who go to high school, then surely every grammar school should give a course in science. Pupils leave school more because they cannot see the good of the education which they are receiving than for any other reason. Science seems to show them that there is some advantage in attending school. Then again there is so much repetition of the work in the grades, so much of the overworked "spiral" method (with the distance between the convolutions almost microscopic), that active children rebel and break away. It may truthfully be said that much repetition is necessary in order that the facts may be fixed in the minds of the pupils, but that is because there is very little interest in the work and their minds are not in a condition to assimilate new thoughts. Give them work in science, and, if the replies to Questions 16, 17, and 18 are true, there will be the greatest of interest, the other studies will be learned in far less time, and a larger and growing percentage of pupils will graduate from the grades and go to high school.

The crowded condition of the curriculum of the grades has been mentioned many times in the replies to this questionnaire. It is usually offered as a reason why new subjects should not be added. The crowded condition of the curriculum is due more to repetition and to the method of teaching which exalts the *tools* of education to the dignity of *subjects*, than to the number of subjects which are being taught. The introduction of general science can furnish the basis for the employment of all of the tools of education. English composition, writing, spelling, oral expression, arithmetic, all would have in the minds of the pupils an excuse for existing. These

studies would develop and have a truer significance, through their active use, than would otherwise be possible. Education is drudgery only to one who does not understand whither it is leading.

To teach such a science course would not be difficult to the teacher who has received instruction in general science, as defined elsewhere in this article. When the immense value of science in the grades is considered, the desirability and even the necessity for giving teachers such training is very apparent. The average teacher in the grades is not prepared to teach such a course in science. This is natural and not to the discredit of the teacher. There has been no special demand for science teaching in the grades, and the teacher who has prepared herself to teach science is teaching in the high school. The teaching of a general science course in the grades requires a different training than is necessary for the teacher of some specialized science course in the high school. Without a doubt the latter would fail completely as a teacher of science in the grades. As far as is known there is practically no instruction being given in the normal schools of the country whereby teachers may be prepared for science work in the grades, with the exception of nature-study and agriculture.

While nature-study has its place, and instruction in agriculture is certainly most desirable in the grades, these studies are naturally self-limited and do not supply the needs of the child in this pre-eminently scientific age. General science, which embraces both nature-study and agriculture, as well as including material from all of the sciences, not only supplies the needs of the child but, by showing him undreamed-of possibilities, stimulates him to higher and better things. Instruction in general science, and in the methods of teaching general science in the grades, should be given in every normal school of the United States.

BOOK REVIEWS

Correlated Courses in Woodwork and Mechanical Drawing. By IRA S. GRIFFITH, A.B. The Manual Arts Press. Pp. 238.

Essentials of Woodworking. By IRA S. GRIFFITH, A.B. The Manual Arts Press. Pp. 190.

Projects for Beginning Woodwork and Mechanical Drawing. By IRA S. GRIFFITH, A.B. The Manual Arts Press. 51 plates.

Advanced Projects in Woodwork. By IRA S. GRIFFITH, A.B. The Manual Arts Press. 51 plates.

The books on woodworking which are listed above represent a very comprehensive attempt to make the shopwork in the last two years of the elementary school systematic and progressive. One of the great virtues of the foreign systems of manual training, namely the Russian system and the Lloyd system, was that these systems were worked out completely, so that the teacher of limited training knew how to proceed step by step through a series of class exercises. With a reorganization of manual training and the injection of many demands for an industrial type of training, the regular progression of this work has lost somewhat. Even teachers who have seen the importance of introducing manual training into the school work have been unable to organize their good intentions and the enthusiasm of the students into anything which would constitute a regular progressive scheme.

In the first book, *Correlated Courses in Woodwork and Mechanical Drawing*, Mr. Griffith has given, in detail, lessons for each of the different grades. He has also given some discussions of the methods of grading the work and of the different materials necessary for the successive grades. The normal-school student and the teacher will find in these discussions the best possible stimulus to a careful and systematic consideration of the lines of work which children can profitably take up.

The second volume, *Essentials of Woodworking*, contains very good descriptions of the tools which are needed for a manual-training course and also a discussion of how each tool is to be used. The book also contains an account of the principles of simple joinery and cabinet-work and an account of the different kinds of wood that can be employed for ordinary shopwork.

The two volumes entitled *Projects for Beginning* and *Advanced Projects* give drawings which can be used for classroom work. These drawings repeat the sketches that are presented in the first volume and are convenient in this form for the use of students in classes.

This series of books is certainly a very genuine contribution to the work of manual training. One of the gravest difficulties with the technical subjects in the school course is that they lack that kind of progression which is characteristic of academic courses. Because of this lack of systematic organization there is also in many cases a lack of genuine educational utility in the courses. Mr. Griffith is a teacher of experience. He has also been in contact with the normal classes at Bradley Poly-

technic Institute and has trained them in the presentation of materials. The book shows a broad view of the subject-matter of manual training adequate for advanced students as well as for immature children who begin the shopwork in the grades. The work is progressive but not formal. The student is given the idea of a real project, but is at the same time guided in his work so that he will get the fundamental processes necessary to a general training in the use of tools.

C. H. J.

The Children's Reading. By FRANCES JENKINS OLCOTT. Boston: Houghton Mifflin Co., 1912. Pp. 344. $1.25 net.

Miss Olcott has so well stated the aim and scope of her book in the prefatory note to readers that I can do no better than quote it here.

"The aim of this book is to meet in a simple and practical way the following questions often asked by parents:

"Of what value are books in the education of my children?

"What is the effect of bad reading?

"How may I interest my children in home-reading?

"What kind of books do children like?

"What books shall I give my growing boy and girl?

"Where and how may I procure books?

"These questions are answered in fourteen chapters, each followed by a descriptive list of books helpful to parents and to child-study clubs, or suitable for the children's own reading. All juvenile books recommended are selected by standards based on Christian ethics, practical psychology, and the literary values of generally accepted good books. Instructions are given for procuring books by purchase or from public libraries. Special suggestions are made for parents living in the country.

"To make the information in the book of practical use, suggestions are given as to ways and means of interesting children in home-reading, and developing their literary tastes gradually and pleasantly—for, as the greatest of our English poets says: 'No profit grows where is no pleasure taken.'"

Miss Olcott, for many years the Director of the Children's Department of the Carnegie Library in Pittsburgh, has had exceptional opportunities for developing the use of good books among children. Her wide experience has most admirably suited her to the task she has undertaken. The teacher and librarian, as well as the parent, will find it very convenient to have so much information of a practical nature in a single volume. It is a mine of information published in attractive form.

IRENE WARREN

BOOKS RECEIVED

AMERICAN BOOK CO., CHICAGO

Founders of Our Country. By FANNY E. COE. Cloth. Illustrated. Pp. 320. Price, $0.50.

Latin Subordinate Clause Syntax. By M. A. LEIPER. Flexible cloth. Pp. 55. Price, $0.30.

Outline for Review in Civics. By ARTHUR MAYER WOLFSON. Cloth. Pp. 80. Price, $0.25.

Representative Essays in Modern Thought—A Basis for Composition. Edited by HARRISON ROSS STEEVES and FRANK HUMPHREY RISTINE. Half-leather. Pp. 547. Price $1.50.

Aus vergangener Zeit. Edited by ARNOLD WERNER-SPANHOOFD. Cloth. Pp. 278. Illustrated, with notes, conversational questions, and vocabulary. Price $0.50.

Deutsche Heimat. Edited by JOSEFA SCHRAKAMP. Cloth. Pp. 404. Illustrated, with notes, conversational questions, and vocabulary. Price $0.80.

Hannah of Kentucky. By JAMES OTIS. Cloth. Pp. 149. Illustrated. Price $0.35.

RAND McNALLY & CO., CHICAGO

The Autobiography of Benjamin Franklin. Edited by GEORGE B. AITON. Cloth. Illustrated. Pp. 314. Price $0.45.

Abraham Lincoln, the Man of the People ("Little Lives of Great Men Series"). By WILLIAM H. MACE. Cloth. Illustrated. Pp. 191. Price $0.35.

TEACHERS COLLEGE, COLUMBIA UNIVERSITY, NEW YORK

Industrial Education. By JAMES E. RUSSELL and FREDERICK G. BONSER. Pp. 50. Cloth $0.65; paper $0.30.

A Syllabus of a Course on Elementary Woodworking. By WILLIAM NOYES. Paper. Pp. 47. Price $0.30.

C. K. & H. B. TAYLOR, PHILADELPHIA

The Moral Education of School Children. By CHARLES KEEN TAYLOR. Cloth. Pp. 77. Price $0.75.

GINN & CO., CHICAGO

Cyr's New Primer. By ELLEN M. CYR. Cloth. Illustrated. Pp. 121. Price $0.30.

The Beacon Primer. By JAMES H. FASSETT. Cloth. Illustrated. Pp. 120. Price $0.35.

GINN & CO., BOSTON

Busy Builders' Book. By BERTHA B. and ERNEST COBB. Cloth. Illustrated. Pp. 68. Price $0.30.

HENRY HOLT & CO., NEW YORK

Sprach- und Lesebuch. By W. H. GOHDES and H. A. BUSCHEK. Cloth. Pp. 370. Price $1.15.

L. A. RANKIN & CO., BOSTON

Walks and Talks. By WILLIAM HAWLEY SMITH. Paper. Pp. 224.

SUPERINTENDENT GOVERNMENT PRINTING, CALCUTTA, INDIA

Report of the Conference on the Education of the Domiciled Community in India, Simla, July, 1912. Cardboard. Pp. 202. Price Re. 1, or 1*s.* 6*d.*

CAMBRIDGE UNIVERSITY PRESS, ENGLAND

Macbeth ("The Granta Shakespeare"). Edited by J. H. LOBBAN. Cloth. Illustrated. Pp. 148.

L. K. CAMERON, TORONTO

The Montessori Method. An Exposition and Criticism. By S. A. MORGAN. Bulletin No. 1, Ontario Department of Education. Paper. Pp. 72.

Industrial, Technical, and Art Education. Bulletin No. 2, Ontario Department of Education. Paper. Pp. 181.

THE MANUAL ARTS PRESS, PEORIA

Manual Training Toys for the Boy's Workshop. By HARRIS W. MOORE. Cloth. Pp. 111. Price $1.00.

D. C. HEATH & CO., BOSTON

Plant and Animal Children and How They Grow. By ELLEN TORELLE. Cloth. Illustrated. Pp. 230. Price $0.50.

WARWICK & YORK, BALTIMORE

Experimental Studies of Mental Defectives. By J. E. WALLACE WALLIN. Cloth. Pp. 155. Price $1.25.

LONGMANS, GREEN & CO., NEW YORK

The English Teacher's Manual. By L. A. PITTENGER. Paper. Pp. 116. Price $0.25.

J. BIELEFELDS VERLAG, FREIBURG

The Little Yankee. By ALFRED D. SCHOCH and R. KRON. Cloth. Pp. 192. Price 3 M.

OXFORD UNIVERSITY PRESS, AMERICAN BRANCH, NEW YORK

Gobseck et Jesus Christ en Flandre. By HONORÉ DE BALZAC. Edited with Introduction, Notes, and Index by DR. R. T. HOLBROOK. Cloth. Pp. 197. Price $0.60.

UNIVERSITY OF CHICAGO PRESS, CHICAGO

The Twelfth Yearbook of the National Society for the Study of Education. Paper. 2 volumes. Pp. 119; 114.

CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS[1]

IRENE WARREN[2]
Librarian, School of Education, University of Chicago

America lagging behind in aero-schools. Lit. D. 46:225. (1 Fe. '13.)

Bachrach, William. The two-year stenographic course at the Parker High School. Educa. Bi-mo. 7:229–35. (Fe. '13.)

Boyd, William R. How the Iowa state colleges are getting together. R. of Rs. 47:209–11. (Fe. '13.)

Bracq, Jean Charlemagne. French in the college course. Educa. R. 45:122–139. (Fe. '13.)

The author presents his opinions as to the many values of teaching French in colleges and the best methods to employ.

Buck, Gertrude. Some preliminary considerations in planning the revision of grammatical terminology, English J. 2:11–17. (Ja. '13.)

Caldwell, Otis W. The laboratory method and high-school efficiency. Pop. Sci. Mo. 82:243–51. (Mr. '13.)

Discusses the advantages of directed supervised study over the usual home study.

Canby, Henry Seidel. The undergraduate. Harper 126:592–98. (Mr. '13.)

Chapman, John Jay. Charles Eliot Norton. Harp. W. 57:6. (1 Fe. '13.)

Chubb, Percival. Education for play. Relig. Educa. 7:699–704. (Fe. '13.)

Clapp, John M. Oral English in the college course. English J. 2:18–33. (Fe. '13.)

Clark, Herbert F. Constructive morals and school life. Psychol. Clinic 6:252–55. (Fe. '13.)

Davis, Jesse B. Vocational and moral guidance in the high school. Relig. Educa. 7:645–53. (Fe. '13.)

Farley, George L. Causes of non-promotion. Psychol. Clinic 6:256–59. (Fe. '13.)

A brief statistical study.

[1] Abbreviations.—Educa. Bi-mo., Educational Bi-monthly; Educa. R., Educational Review; El. School T., Elementary School Teacher; English J., English Journal; Harp. W., Harper's Weekly; J. of Educa. Psychol., Journal of Educational Psychology; Lit. D., Literary Digest; Pop. Sci. Mo., Popular Science Monthly; Psychol. Clinic, Psychological Clinic; Relig. Educa., Religious Education; R. of Rs., Review of Reviews; School Sci. and Math., School Science and Mathematics; Sci. Am. Sup., Scientific American Supplement; Teach. Coll. Rec., Teachers College Record.

[2] Annotations by Dr. J. F. Bobbitt and Dr. F. N. Freeman.

Harris, James H. An inquiry into the compositional interests of pupils in the seventh and eighth grades. English J. 2:34–43. (Ja. '13.)

A study of the kinds of composition and of subjects for composition preferred by seventh- and eighth-grade pupils.

Hatch, Henry D. Some observations on Scottish public educational provisions for promoting the life careers of pupils leaving school. Educa. Bi-mo. 7:203–21. (Fe. '13.)

Hedges, William. A year of prevocational work. Educa. Bi-mo. 7:191–202. (Fe. '13.)

Johnson, Franklin W. Preliminary study in moral education. Relig. Educa. 7:621–25. (Fe. '13.)

An inquiry into certain aspects of the practice of high-school students in certain types of moral conduct.

Jones, Elmer E. Individual differences in school children. Psychol. Clinic 6:241–51. (Fe. '13.)

The variation among a small group of children as determined by tests of association, reaction, observation, memory, perception of form, mathematics, and reading.

King, Irving. The opportunity afforded by the social life of the school. Relig. Educa. 7:604–11. (Fe. '13.)

An account of the resources at hand and of the requirements in utilizing them.

Kingsley, Sherman C. The newest interest in the mother and child. Child (Chicago) 1:13–16. (Fe. '13.)

Koeppel, George. Observations concerning the organization of schools and certain phases of educational work in Germany. III. El. School T. 13:287–93. (Fe. '13.)

The reform of school systems.

Leathes, Stanley. Modern languages in education. Educa. R. 45:155–66. (Fe. '13.)

Looking regretfully back at the good old days when Latin and Greek held beneficent sway, he considers the possibilities of using modern languages to equally good purpose.

Looking school facts in the face. Lit. D. 46:278–79. (8 Fe. '13.)

McAndrew, William. Social education in high schools. Relig. Educa. 7:597–603. (Fe. '13.)

A general statement of the worthlessness of the high school, as at present constituted, for social education.

MacDougall, Robert. The child's speech. V. The mastery of the tongue. J. of Educa. Psychol. 4:85–96. (Fe. '13.)

The development of control over the articulatory processes.

MacLear, Martha. The latest thing in education. Educa. R. 45:140–45. (Fe. '13.)

Presents two or three illustrations to show that the much-lauded schools of the past were probably not so efficient as sometimes painted.

McManis, John T. The study of children in the normal school. Educa. Bimo. 7:236–43. (Fe. '13.)

Maxwell, William H. The attitude of the American parent toward education. Educa. R. 45:167–83. (Fe. '13.)

Deals with the various types of parents in their attitudes toward the work of the schools.

Miles, H. E. Work and citizenship. Survey 29:682–85. (15 Fe. '13.)

Presents on the basis of Wisconsin experience a vigorous plea for industrial education separate and apart from public-school systems.

Monroe, Walter S. Analysis of Colburn's arithmetics. V. El. School. T. 13:294–302. (Fe. '13.)

Motoring books to the people. Lit. D. 46:230. (1 Fe. '13.)

National Education Association Committee course for moral instruction in high schools. Relig. Educa. 7:681–91. (Fe. '13.)

O'Shea, M. V. Recent contributions to the literature of education. Dial 54:142–44. (16 Fe. '13.)

Pyle, William H. Mental and physical examination of school children in rural districts. Psychol. Clinic 6:260–62. (Fe. '13.)

Pyle, W. H. Standards of mental efficiency. J. of Educa. Psychol. 4:61–70. (Fe. '13.)

Some miscellaneous results from tests given to children of various ages.

Roman, F. W. Control of industrial schools of Germany. El. School T. 13:269–73. (Fe. '13.)

Gives the historical reason for the separate control of industrial schools.

School-books that ruin eyesight. Lit. D. 46:394. (22 Fe. '13.)

School of Education. A seven-year elementary school. El. School T. 13:274–86. (Fe. '13.)

Describes by a detailed analysis of the subjects of instruction how one year between the University Elementary and High Schools has been saved.

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